



Lancaster Laboratories  
Environmental

# Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

**Sample Description:** WWW-FRB-CDA009-122717 Grab Water  
Wolverine World Wide

**Tetra Tech, Inc.**  
**ELLE Sample #:** WW 9388841  
**ELLE Group #:** 1891712  
**Matrix:** Water

**Project Name:** Wolverine World Wide Tannery

**Submittal Date/Time:** 12/29/2017 10:00

**Collection Date/Time:** 12/27/2017 18:09

**SDG#:** WWW01-23FB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
<b>Misc. Organics</b>		<b>EPA 537 Version 1.1</b>	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	N.D.	2	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA	2355-31-9	N.D.	2	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonate	375-73-5	N.D.	2	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	2	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	2	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	2	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	2	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	2	1
14070	Perfluorononanoic acid	375-95-1	N.D.	2	1
14070	Perfluoro-octanesulfonate	1763-23-1	N.D.	2	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	2	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	3	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	2	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	2	1

## Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18005007	01/16/2018 23:14	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18005007	01/05/2018 07:35	Pamela Rothharpt	1



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**Sample Description:** WWW-DW-CDA009-122717 Grab Water  
Wolverine World Wide

**Tetra Tech, Inc.**  
**ELLE Sample #:** PW 9388842  
**ELLE Group #:** 1891712  
**Matrix:** Water

**Project Name:** Wolverine World Wide Tannery

**Submittal Date/Time:** 12/29/2017 10:00

**Collection Date/Time:** 12/27/2017 18:11

**SDG#:** WWW01-24

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
<b>Misc. Organics</b>		<b>EPA 537 Version 1.1</b>	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	N.D.	2	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA	2355-31-9	N.D.	2	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonate	375-73-5	N.D.	2	1
14070	Perfluorodecanoic acid	335-76-2	N.D.	2	1
14070	Perfluorododecanoic acid	307-55-1	N.D.	2	1
14070	Perfluoroheptanoic acid	375-85-9	N.D.	2	1
14070	Perfluorohexanesulfonate	355-46-4	N.D.	2	1
14070	Perfluorohexanoic acid	307-24-4	N.D.	2	1
14070	Perfluorononanoic acid	375-95-1	N.D.	2	1
14070	Perfluoro-octanesulfonate	1763-23-1	2 J	2	1
14070	Perfluorooctanoic acid	335-67-1	N.D.	2	1
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	3	1
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	2	1
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	2	1

## Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010003	01/12/2018 22:17	Marissa C Drexinger	1
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010003	01/17/2018 00:01	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	2	18010003	01/10/2018 09:00	Pamela Rothharpt	1



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# Analysis Report

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**Sample Description:** WWW-PF-CDA009-122717 Grab Water  
Wolverine World Wide

**Tetra Tech, Inc.**  
**ELLE Sample #:** PW 9388845  
**ELLE Group #:** 1891712  
**Matrix:** Water

**Project Name:** Wolverine World Wide Tannery

**Submittal Date/Time:** 12/29/2017 10:00

**Collection Date/Time:** 12/27/2017 18:23

**SDG#:** WWW01-27

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
<b>Misc. Organics</b>		<b>EPA 537 Version 1.1</b>	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	N.D.	20	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA	2355-31-9	N.D.	20	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonate	375-73-5	81	20	10
14070	Perfluorodecanoic acid	335-76-2	N.D.	20	10
14070	Perfluorododecanoic acid	307-55-1	N.D.	20	10
14070	Perfluoroheptanoic acid	375-85-9	150	20	10
14070	Perfluorohexanesulfonate	355-46-4	570	20	10
14070	Perfluorohexanoic acid	307-24-4	84	20	10
14070	Perfluorononanoic acid	375-95-1	N.D.	20	10
14070	Perfluoro-octanesulfonate	1763-23-1	7,900	2,000	1000
14070	Perfluorooctanoic acid	335-67-1	1,800	200	100
14070	Perfluorotetradecanoic acid	376-06-7	N.D.	30	10
14070	Perfluorotridecanoic acid	72629-94-8	N.D.	20	10
14070	Perfluoroundecanoic acid	2058-94-8	N.D.	20	10

Reporting limits were raised due to interference from the sample matrix.

## Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010009	01/12/2018 23:50	Marissa C Drexinger	10
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010009	01/17/2018 00:47	Marissa C Drexinger	10
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010009	01/17/2018 00:58	Marissa C Drexinger	100
14070	Full List PFAS - DW	EPA 537 Version 1.1	1	18010009	01/17/2018 01:44	Marissa C Drexinger	1000
14381	DW PFAS Prep	EPA 537 Version 1.1	2	18010009	01/10/2018 15:10	Danielle D McCully	1

# Environmental Analysis Request/Chain of Custody



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Acct. # 10459 Group # 1891712 Sample # 9388817-45

**COC # 540817**

Client Information				Matrix				Analysis Requested												For Lab Use Only																																																																																																																																						
Client: <u>MSG/Tetra Tech</u>		Acct. #:		<input type="checkbox"/> Tissue <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input checked="" type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Other:		<div style="display: flex; justify-content: space-between;"> <div> <b>Preservation Codes</b>  <table border="1" style="width:100%; text-align: center;"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div> <div> <b>Preservation Codes</b>            H=HCl      T=Thiosulfate            N=HNO<sub>3</sub>    B=NaOH            S=H<sub>2</sub>SO<sub>4</sub>   O=Other         </div> </div>												0														FSC: _____																																																																																																																										
0																																																																																																																																																										
Project Name/#: <u>Wolverine World Wide</u>		PWSID #:		<div style="display: flex;"> <div style="flex: 1;"> <b>Sample Identification</b>  <table border="1" style="width:100%; text-align: center;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Collected</th> <th rowspan="2">Grab</th> <th rowspan="2">Composite</th> <th rowspan="2">Soil</th> <th rowspan="2">Water</th> <th rowspan="2">Other:</th> <th rowspan="2">Total # of Containers</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr><td>WWW-FRB-CDA008-122717</td><td>12/7/17</td><td>1719</td><td>X</td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr><td>WWW-DW-CDA008-122717</td><td>1</td><td>1723</td><td>X</td><td></td><td></td><td></td><td></td><td>2</td></tr> <tr><td>WWW-PF-CDA008-122717</td><td>1</td><td>1728</td><td>X</td><td></td><td></td><td></td><td></td><td>2</td></tr> <tr><td>WWW-FRB-CDA009-122717</td><td>1</td><td>1809</td><td>X</td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr><td>WWW-DW-CDA009-122717</td><td>1</td><td>1811</td><td>X</td><td></td><td></td><td></td><td></td><td>2</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> </div> <div style="flex: 1;"> <b>Remarks</b>  <div style="height: 100px; border: 1px solid black;"></div> </div> </div>													Collected		Grab	Composite	Soil	Water	Other:	Total # of Containers	Date	Time	WWW-FRB-CDA008-122717	12/7/17	1719	X					1	WWW-DW-CDA008-122717	1	1723	X					2	WWW-PF-CDA008-122717	1	1728	X					2	WWW-FRB-CDA009-122717	1	1809	X					1	WWW-DW-CDA009-122717	1	1811	X					2																																																																																		SCR#: _____	
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WWW-DW-CDA008-122717	1	1723	X					2																																																																																																																																																		
WWW-PF-CDA008-122717	1	1728	X					2																																																																																																																																																		
WWW-FRB-CDA009-122717	1	1809	X					1																																																																																																																																																		
WWW-DW-CDA009-122717	1	1811	X					2																																																																																																																																																		
Project Manager: <u>Brent Ritchie</u>		P.O. #: <u>217808</u>		<div style="display: flex;"> <div style="flex: 1;"> <b>State where samples were collected:</b>  <u>MI</u> </div> <div style="flex: 1;"> <b>For Compliance:</b>            Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> </div> </div>																																																																																																																																																						
Sampler: <u>BLR / C. Renner</u>		Quote #:																																																																																																																																																								
<b>Turnaround Time (TAT) Requested</b> (please circle) Standard <u>Rush</u> (Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by <u>[Signature]</u> Date <u>12-3-17</u> Time <u>2:00</u>				Received by _____ Date _____ Time _____				Date _____ Time _____																																																																																																																																														
Date results are needed: <u>5-Days</u>				Relinquished by _____ Date _____ Time _____				Received by _____ Date _____ Time _____				Date _____ Time _____																																																																																																																																														
E-mail address: <u>Britchier@MannikSmithGroup.com</u>				Relinquished by _____ Date _____ Time _____				Received by _____ Date _____ Time _____				Date _____ Time _____																																																																																																																																														
<b>Data Package Options</b> (circle if required) Type I (EPA Level 3) <u>Level IV</u> Type VI (Raw Data Only) Equivalent/non-CLP				Relinquished by _____ Date _____ Time _____				Received by <u>[Signature]</u> Date <u>12/3/17</u> Time <u>10:00</u>				Date _____ Time _____																																																																																																																																														
Type III (Reduced non-CLP)      NJ DKQP      TX TRRP-13 NYSDEC Category A or B      MA MCP      CT RCP				EDD Required? <u>Yes</u> No If yes, format: _____				Relinquished by Commercial Carrier: UPS _____ FedEx <u>X</u> Other _____				Temperature upon receipt <u>1.3</u> °C																																																																																																																																														
Site-Specific QC (MS/MSD/Dup)? <u>Yes</u> No (If yes, indicate QC sample and submit triplicate sample volume.)				Relinquished by _____ Date _____ Time _____				Received by _____ Date _____ Time _____				Date _____ Time _____																																																																																																																																														

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0216

## ***Environmental Analysis Request/Chain of Custody***



**Lancaster Laboratories  
Environmental**

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10459 Group # 1891712 Sample # 9388817-45

**COC #** 540816

[illegible]



Lancaster Laboratories  
Environmental

## Sample Administration Receipt Documentation Log

Doc Log ID: 205017



Group Number(s): 1891712

Client: MSG/TETRA TECH

### Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>12/29/2017 10:00</u>
Number of Packages:	<u>4</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>MI</u>		

### Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wendy Wakeley (1669) at 11:06 on 12/29/2017

### Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	3.6	DT	Wet	Y	Bagged	N
2	DT146	1.3	DT	Wet	Y	Bagged	N
3	DT146	0.4	DT	Wet	Y	Bagged	N
4	DT146	1.0	DT	Wet	Y	Bagged	N



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# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>BMQL</b>	Below Minimum Quantitation Level	<b>mg</b>	milligram(s)
<b>C</b>	degrees Celsius	<b>mL</b>	milliliter(s)
<b>cfu</b>	colony forming units	<b>MPN</b>	Most Probable Number
<b>CP Units</b>	cobalt-chloroplatinate units	<b>N.D.</b>	non-detect
<b>F</b>	degrees Fahrenheit	<b>ng</b>	nanogram(s)
<b>g</b>	gram(s)	<b>NTU</b>	nephelometric turbidity units
<b>IU</b>	International Units	<b>pg/L</b>	picogram/liter
<b>kg</b>	kilogram(s)	<b>RL</b>	Reporting Limit
<b>L</b>	liter(s)	<b>TNTC</b>	Too Numerous To Count
<b>lb.</b>	pound(s)	<b>µg</b>	microgram(s)
<b>m3</b>	cubic meter(s)	<b>µL</b>	microliter(s)
<b>meq</b>	milliequivalents	<b>umhos/cm</b>	micromhos/cm
<b>&lt;</b>	less than		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

**Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.**

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

## Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$ . The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$ . The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.

Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.